

## **ABSTRACT OF THE DISCLOSURE**

Systems and methods are provided wherein call-blocking probability of a telecommunications system is calculated based on consideration of over flow paths and alternate routes. Once the routes and overflow pathways are identified, the total number of call attempts and calls failed, due to congestion, is determined from statistical route data. Dividing the number of failed calls due to congestion by the number of attempted calls results in the blocking proportion for each route that is used by the methods disclosed herein to calculate the probability of blocking for that route.